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## Occupational Employment and Wages in Tulsa, May 2015

Workers in the Tulsa Metropolitan Statistical Area had an average (mean) hourly wage of \$21.02 in May 2015, about 10 percent below the nationwide average of \$23.23, according to the U.S. Bureau of Labor Statistics. Regional Commissioner Stanley W. Suchman noted that, after testing for statistical significance, wages in the local area were lower than their respective national averages in 16 of the 22 major groups, including computer and mathematical; education, training, and library; and construction and extraction. Only one local group—production occupations—had wages that were measurably higher than the national average. Wage levels in the five remaining occupational groups were not statistically different from their respective national averages.

When compared to the nationwide distribution, local employment was more highly concentrated in 6 of the 22 occupational groups, including production; construction and extraction; and management. Conversely, 11 groups had employment shares significantly below their national representation, including education, training, and library; business and financial operations; and computer and mathematical. (See [table A](#) and [box note](#) at end of release.)

**Table A. Occupational employment and wages by major occupational group, United States and the Tulsa Metropolitan Statistical Area, and measures of statistical significance, May 2015**

Major occupational group	Percent of total employment			Mean hourly wage			
	United States	Tulsa		United States	Tulsa		Percent difference <sup>(1)</sup>
Total, all occupations.....	100.0%	100.0%		\$23.23	\$21.02	*	-10
Management.....	5.0	5.8	*	55.30	47.94	*	-13
Business and financial operations.....	5.1	4.0	*	35.48	30.69	*	-14
Computer and mathematical.....	2.9	1.9	*	41.43	33.53	*	-19
Architecture and engineering.....	1.8	2.0	*	39.89	38.68	*	-3
Life, physical, and social science.....	0.8	0.5	*	34.24	34.25		0
Community and social service.....	1.4	1.2	*	22.19	19.54	*	-12
Legal.....	0.8	0.8		49.74	49.23		-1
Education, training, and library.....	6.2	5.0	*	25.48	20.74	*	-19
Arts, design, entertainment, sports, and media.....	1.3	0.8	*	27.39	24.09	*	-12
Healthcare practitioners and technical.....	5.8	5.4	*	37.40	35.29		-6
Healthcare support.....	2.9	2.9		14.19	13.61	*	-4
Protective service.....	2.4	2.0	*	21.45	18.15	*	-15
Food preparation and serving related.....	9.1	9.3		10.98	9.70	*	-12
Building and grounds cleaning and maintenance..	3.2	2.5	*	13.02	11.33	*	-13
Personal care and service.....	3.1	2.3	*	12.33	10.65	*	-14

**Table A. Occupational employment and wages by major occupational group, United States and the Tulsa Metropolitan Statistical Area, and measures of statistical significance, May 2015 - Continued**

Major occupational group	Percent of total employment			Mean hourly wage			
	United States	Tulsa		United States	Tulsa		Percent difference <sup>(1)</sup>
Sales and related.....	10.5	11.2	*	18.90	16.74	*	-11
Office and administrative support.....	15.8	16.2		17.47	16.48	*	-6
Farming, fishing, and forestry.....	0.3	0.1	*	12.67	12.53		-1
Construction and extraction.....	4.0	4.9	*	22.88	19.63	*	-14
Installation, maintenance, and repair.....	3.9	4.6	*	22.11	20.20	*	-9
Production.....	6.6	9.5	*	17.41	18.28	*	5
Transportation and material moving.....	6.9	7.0		16.90	18.22		8

<sup>(1)</sup> A positive percent difference measures how much the mean wage in Tulsa is above the national mean wage, while a negative difference reflects a lower wage.

Note: \* The percent share of employment or mean hourly wage for this area is significantly different from the national average of all areas at the 90-percent confidence level.

One occupational group—production—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Tulsa had 41,320 jobs in production, accounting for 9.5 percent of local area employment, significantly higher than the 6.6-percent national share. The local average hourly wage for this occupational group was \$18.28, about 5 percent above the national average of \$17.41.

Some of the larger detailed occupations within the production group included team assemblers (5,290), welders, cutters, solderers, and brazers (4,150), and first-line supervisors of production and operating workers (3,030). Among the higher paying jobs were petroleum pump system operators, refinery operators, and gaugers, as well as first-line supervisors of production and operating workers, with mean hourly wages of \$43.65 and \$27.57, respectively. At the lower end of the wage scale were bakers (\$10.42) and laundry and dry-cleaning workers (\$10.72). (Detailed data for production workers are presented in [table 1](#); for a complete listing of detailed occupations see [www.bls.gov/oes/current/oes\\_46140.htm](http://www.bls.gov/oes/current/oes_46140.htm).)

Location quotients allow us to explore the occupational make-up of a metropolitan area by comparing the composition of jobs in an area relative to the national average. (See [table 1](#).) For example, a location quotient of 2.0 indicates that an occupation accounts for twice the share of employment in the area than it does nationally. In the Tulsa metropolitan area, above average concentrations of employment were found in many of the occupations within the production group. For instance, metal and plastic drilling and boring machine tool setters, operators, and tenders were employed at 7.8 times the national rate in Tulsa, and gas plant operators, at 6.5 times the U.S. average. Both location quotients were among the highest in all metropolitan areas for these particular occupations. On the other hand, butchers and meat cutters had a location quotient of 1.0 in Tulsa, indicating that this occupation's local and national employment shares were similar.

These statistics are from the Occupational Employment Statistics (OES) survey, a federal-state cooperative program between BLS and State Workforce Agencies, in this case, the Oklahoma Employment Security Commission.

## **Notes on Occupational Employment Statistics Data**

With the issuance of data for May 2015, the OES program has incorporated redefined metropolitan area definitions as designated by the Office of Management and Budget. OES data are available for 394 metropolitan areas, 38 metropolitan divisions, and 167 OES-defined nonmetropolitan areas. A listing of the areas and their definitions can be found at [www.bls.gov/oes/current/msa\\_def.htm](http://www.bls.gov/oes/current/msa_def.htm).

A value that is statistically different from another does not necessarily mean that the difference has economic or practical significance. Statistical significance is concerned with the ability to make confident statements about a universe based on a sample. It is entirely possible that a large difference between two values is not significantly different statistically, while a small difference is, since both the size and heterogeneity of the sample affect the relative error of the data being tested.

### **Technical Note**

The Occupational Employment Statistics (OES) survey is a semiannual mail survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. The OES program produces employment and wage estimates for over 800 occupations for all industries combined in the nation; the 50 states and the District of Columbia; 432 metropolitan areas and divisions; 167 nonmetropolitan areas; and Guam, Puerto Rico, and the U.S. Virgin Islands. National estimates are also available by industry for NAICS sectors, 3-, 4-, and selected 5- and 6-digit industries, and by ownership across all industries and for schools and hospitals. OES data are available at [www.bls.gov/oes/tables.htm](http://www.bls.gov/oes/tables.htm).

OES estimates are constructed from a sample of about 1.2 million establishments. Forms are mailed to approximately 200,000 sampled establishments in May and November each year. May 2015 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2015, November 2014, May 2014, November 2013, May 2013, and November 2012. The overall national response rate for the six panels is 73.5 percent based on establishments and 69.6 percent based on weighted sampled employment. The unweighted employment of sampled establishments across all six semiannual panels represents approximately 57.9 percent of total national employment. (Response rates are slightly lower for these estimates due to the federal shutdown in October 2013.) The sample in the Tulsa Metropolitan Statistical Area included 3,586 establishments with a response rate of 77 percent. For more information about OES concepts and methodology, go to [www.bls.gov/news.release/ocwage.tn.htm](http://www.bls.gov/news.release/ocwage.tn.htm).

The May 2015 OES estimates are based on the 2010 Standard Occupational Classification (SOC) system and the 2012 North American Industry Classification System (NAICS). Information about the 2010 SOC is available on the BLS website at [www.bls.gov/soc](http://www.bls.gov/soc) and information about the 2012 NAICS is available at [www.bls.gov/bls/naics.htm](http://www.bls.gov/bls/naics.htm).

### **Metropolitan area definitions**

The substate area data published in this release reflect the standards and definitions established by the U.S. Office of Management and Budget.

The **Tulsa Metropolitan Statistical Area** includes Creek, Okmulgee, Osage, Pawnee, Rogers, Tulsa, and Wagoner Counties in Oklahoma.

### **Additional information**

OES data are available on our regional web page at [www.bls.gov/regions/southwest](http://www.bls.gov/regions/southwest). Answers to frequently asked questions about the OES data are available at [www.bls.gov/oes/oes\\_ques.htm](http://www.bls.gov/oes/oes_ques.htm). Detailed technical information about the OES survey is available in our Survey Methods and Reliability Statement on the BLS website at [www.bls.gov/oes/current/methods\\_statement.pdf](http://www.bls.gov/oes/current/methods_statement.pdf).

Information in this release will be made available to sensory impaired individuals upon request. Voice phone: (202) 691-5200; Federal Relay Service: (800) 877-8339.

**Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, Tulsa Metropolitan Statistical Area, May 2015**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
<b>Production occupations.....</b>	41,320	1.5	\$18.28	\$38,020
First-line supervisors of production and operating workers.....	3,030	1.6	27.57	57,340
Coil winders, tapers, and finishers.....	40	0.9	15.44	32,110
Electrical and electronic equipment assemblers.....	(5)	(5)	14.47	30,090
Electromechanical equipment assemblers.....	330	2.3	18.28	38,020
Engine and other machine assemblers.....	220	1.8	15.73	32,720
Structural metal fabricators and fitters.....	680	2.7	18.15	37,740
Team assemblers.....	5,290	1.5	15.00	31,210
Assemblers and fabricators, all other.....	170	0.2	12.16	25,280
Bakers.....	540	1.0	10.42	21,680
Butchers and meat cutters.....	440	1.0	11.99	24,940
Meat, poultry, and fish cutters and trimmers.....	70	0.2	13.19	27,440
Food and tobacco roasting, baking, and drying machine operators and tenders.....	(5)	(5)	14.43	30,020
Food batchmakers.....	460	1.1	12.17	25,320
Food cooking machine operators and tenders.....	(5)	(5)	15.08	31,360
Food processing workers, all other.....	80	0.5	12.26	25,500
Computer-controlled machine tool operators, metal and plastic.....	910	2.0	19.91	41,420
Computer numerically controlled machine tool programmers, metal and plastic.....	60	0.8	26.97	56,100
Extruding and drawing machine setters, operators, and tenders, metal and plastic.....	(5)	(5)	17.85	37,130
Forging machine setters, operators, and tenders, metal and plastic.....	80	1.3	21.94	45,630
Rolling machine setters, operators, and tenders, metal and plastic.....	290	2.9	17.62	36,640
Cutting, punching, & press machine setters, operators, & tenders, metal & plastic.....	1,130	1.9	15.57	32,390
Drilling and boring machine tool setters, operators, and tenders, metal and plastic.....	360	7.8	19.05	39,620
Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic.....	450	1.9	15.51	32,270
Lathe and turning machine tool setters, operators, and tenders, metal and plastic.....	300	2.3	20.54	42,720
Milling and planing machine setters, operators, and tenders, metal and plastic.....	80	1.3	17.34	36,060
Machinists.....	2,450	2.0	19.12	39,780
Metal-refining furnace operators and tenders.....	140	2.2	13.69	28,480
Foundry mold and coremakers.....	90	2.3	13.75	28,600
Molding, coremaking, & casting machine setters, operators, & tenders, metal & plastic.....	360	0.8	12.24	25,470
Multiple machine tool setters, operators, and tenders, metal and plastic.....	1,200	3.6	16.94	35,230
Tool and die makers.....	180	0.8	22.14	46,050
Welders, cutters, solderers, and brazers.....	4,150	3.4	20.02	41,650
Welding, soldering, and brazing machine setters, operators, and tenders.....	520	3.1	20.84	43,350
Heat treating equipment setters, operators, and tenders, metal and plastic.....	160	2.5	18.18	37,810
Plating and coating machine setters, operators, and tenders, metal and plastic.....	310	2.8	17.88	37,190
Tool grinders, filers, and sharpeners.....	140	4.4	18.48	38,440
Metal workers and plastic workers, all other.....	70	1.1	17.31	35,990
Prepress technicians and workers.....	40	0.4	17.60	36,600
Printing press operators.....	290	0.6	15.74	32,740
Print binding and finishing workers.....	50	0.3	13.88	28,870

**Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, Tulsa Metropolitan Statistical Area, May 2015 - Continued**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
Laundry and dry-cleaning workers.....	630	1.0	10.72	22,290
Pressers, textile, garment, and related materials.....	190	1.3	9.36	19,460
Sewing machine operators.....	150	0.4	11.50	23,910
Tailors, dressmakers, and custom sewers.....	50	0.8	<sup>(5)</sup>	<sup>(5)</sup>
Upholsterers.....	40	0.4	13.15	27,360
Cabinetmakers and bench carpenters.....	220	0.7	16.17	33,630
Furniture finishers.....	<sup>(5)</sup>	<sup>(5)</sup>	16.34	33,990
Sawing machine setters, operators, and tenders, wood.....	70	0.5	13.33	27,720
Woodworking machine setters, operators, and tenders, except sawing..	60	0.2	15.59	32,420
Power plant operators.....	160	1.4	29.77	61,920
Stationary engineers and boiler operators.....	<sup>(5)</sup>	<sup>(5)</sup>	24.80	51,590
Water and wastewater treatment plant and system operators.....	340	0.9	16.51	34,330
Gas plant operators.....	340	6.5	26.06	54,200
Petroleum pump system operators, refinery operators, and gaugers.....	640	4.8	43.65	90,790
Chemical equipment operators and tenders.....	290	1.4	27.19	56,550
Separating, filtering, clarifying, precipitating, & still machine setters, operators, & tenders.....	50	0.4	13.83	28,770
Crushing, grinding, and polishing machine setters, operators, and tenders.....	100	1.0	13.50	28,080
Grinding and polishing workers, hand.....	210	2.4	13.78	28,670
Mixing and blending machine setters, operators, and tenders.....	150	0.4	21.07	43,820
Cutting and slicing machine setters, operators, and tenders.....	160	0.8	14.95	31,090
Extruding, forming, pressing, and compacting machine setters, operators, and tenders.....	160	0.7	14.23	29,600
Furnace, kiln, oven, drier, and kettle operators and tenders.....	100	1.6	16.63	34,580
Inspectors, testers, sorters, samplers, and weighers.....	2,460	1.5	19.70	40,980
Dental laboratory technicians.....	210	1.7	18.69	38,880
Packaging and filling machine operators and tenders.....	830	0.7	12.21	25,390
Coating, painting, and spraying machine setters, operators, and tenders.....	840	3.0	16.68	34,700
Painters, transportation equipment.....	160	1.0	23.38	48,630
Painting, coating, and decorating workers.....	<sup>(5)</sup>	<sup>(5)</sup>	9.57	19,910
Photographic process workers and processing machine operators.....	110	1.4	10.99	22,860
Cleaning, washing, and metal pickling equipment operators and tenders.....	50	0.9	14.21	29,560
Molders, shapers, and casters, except metal and plastic.....	110	0.9	15.33	31,890
Paper goods machine setters, operators, and tenders.....	540	1.9	22.08	45,930
Helpers-production workers.....	2,760	2.0	14.37	29,880
Production workers, all other.....	430	0.6	16.08	33,440

<sup>(1)</sup> For a complete listing of all detailed occupations in the Tulsa MSA, see [www.bls.gov/oes/current/oes\\_46140.htm](http://www.bls.gov/oes/current/oes_46140.htm).

<sup>(2)</sup> Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates do not include self-employed workers.

<sup>(3)</sup> The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average.

<sup>(4)</sup> Annual wages have been calculated by multiplying the hourly mean wage by a "year-round, full-time" hours figure of 2,080 hours; for those occupations where there is not an hourly mean wage published, the annual wage has been directly calculated from the reported survey data.

<sup>(5)</sup> Estimates not released.